

**USE OF RECOMBINANT LIVE-ATTENUATED PARAINFLUENZA  
VIRUS (PIV) AS A VECTOR TO PROTECT AGAINST DISEASE  
CAUSED BY PIV AND RESPIRATORY SYNCYTIAL VIRUS (RSV)**

**ABSTRACT OF THE DISCLOSURE**

5 Chimeric parainfluenza viruses (PIVs) are provided that incorporate a PIV  
vector genome or antigenome and one or more antigenic determinant(s) of a heterologous  
PIV or non-PIV pathogen. These chimeric viruses are infectious and attenuated in humans  
and other mammals and are useful in vaccine formulations for eliciting and immune  
responses against one or more PIVs, or against a PIV and non-PIV pathogen. Also provided  
10 are isolated polynucleotide molecules and vectors incorporating a chimeric PIV genome or  
antigenome which includes a partial or complete PIV vector genome or antigenome  
combined or integrated with one or more heterologous gene(s) or genome segment(s)  
encoding antigenic determinant(s) of a heterologous PIV or non-PIV pathogen. In preferred  
aspects of the invention, chimeric PIV incorporate a partial or complete human PIV vector  
15 genome or antigenome combined with one or more heterologous gene(s) or genome  
segment(s) from a heterologous PIV or non-PIV pathogen, wherein the chimeric virus is  
attenuated for use as a vaccine agent by any of a variety of mutations and nucleotide  
modifications introduced into the chimeric genome or antigenome.

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